ABSTRACT OF THE DISCLOSURE

In the long period grating, a plurality of first areas are discretely arranged in a predetermined range along the longitudinal direction of a silica-based optical fiber, which includes the core area, where GeO_2 has been added, and the clad area surrounding this core area, wherein the refractive index at each position in the first area is modulated to be the refractive index that is the same as the refractive modulated with the first period all through the predetermined range.